



Health impact of climate change on occupational health and productivity in Thailand

Author(s): Langkulsen U, Vichit-Vadakan N, Taptagaporn S
Year: 2010
Journal: Global Health Action. 3

Abstract:

BACKGROUND: The rise in global temperature is well documented. Changes in temperature lead to increases in heat exposure, which may impact health ranging from mild heat rashes to deadly heat stroke. Heat exposure can also aggravate several chronic diseases including cardiovascular and respiratory disease. **OBJECTIVE:** This study examined the relationship between climate condition and health status and productivity in two main categories of the occupational setting - where one setting involves heat generated from the industry and the other with heat in a natural setting. **DESIGN:** This cross-sectional study included four industrial sites (pottery industry, power plant, knife industry, and construction site) and one agricultural site in the Pathumthani and Ayutthaya provinces. Exposure data were comprised of meteorological data and heat exposure including relative humidity (RH) measured by Wet Bulb Globe Temperature (WBGT) monitor. Heat index was calculated to measure the effects of heat exposure on the study population, which consisted of 21 workers at five worksites; a questionnaire was also used to collect data on workers. **RESULTS:** Among the five workplaces, the outdoor WBGT was found to be highest at 34.6 degrees C during 12:00 and 1:00 PM at the agricultural site. It was found that four out of five study sites had heat indices in the 'extreme caution,' where heat cramp and exhaustion may be possible and one site showed a value of 41 degrees C that falls into the category of 'danger,' where sunstroke and heat exhaustion are likely and prolonged exposure may lead to heatstroke. Productivity as perceived by the workers revealed that only the construction and pottery industry workers had a loss of productivity ranged from 10 to 60 %. **CONCLUSIONS:** Climate conditions in Thailand potentially affect both the health and productivity in occupational settings.

Source: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3001853>

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Meteorological Factors, Temperature

Temperature: Extreme Heat

Geographic Feature:

resource focuses on specific type of geography

Climate Change and Human Health Literature Portal

None or Unspecified

Geographic Location: ☒

resource focuses on specific location

Non-United States

Non-United States: Asia

Asian Region/Country: Other Asian Country

Other Asian Country: Thailand

Health Impact: ☒

specification of health effect or disease related to climate change exposure

Injury, Other Health Impact

Other Health Impact: heat related illness

Population of Concern: A focus of content

Population of Concern: ☒

populations at particular risk or vulnerability to climate change impacts

Workers

Resource Type: ☒

format or standard characteristic of resource

Research Article

Timescale: ☒

time period studied

Time Scale Unspecified